



Retail Payments: Global & Mobile Systems

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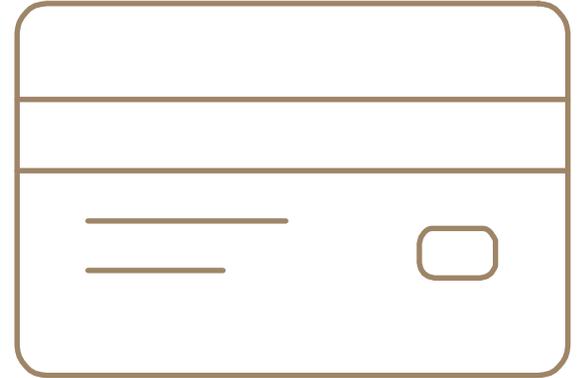
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GLOBAL RETAIL PAYMENTS

Current issues, recent
developments, best practices





Overview of retail payment systems

Differ from large value payment [LVP] systems by character of both payor & payee, scale, urgency, regulatory engagement

Mainly consumer payments with relatively low value & urgency

- **typically for purchase of goods & services by consumers & businesses**
- **are executed using a greater variety of payment instruments than LVP**
- **make more extensive use of private sector systems for processing than do large-value payments for which RTGS systems are largely used**

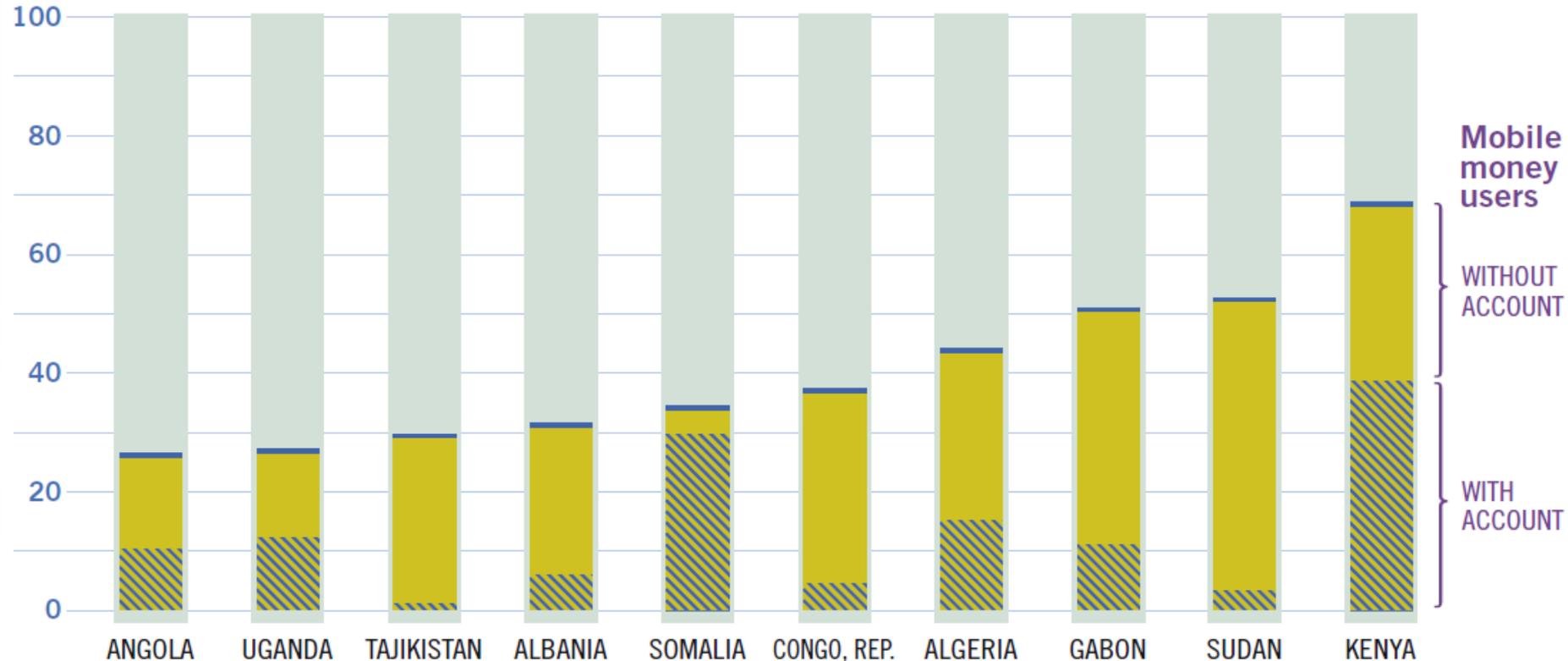


Overview of retail payment systems

- **Purchase of goods and services:** can be at the point-of-sale (PoS) (e.g., in person at a merchant location, through the internet, or by telephone) such as with traditional retailers, and through unattended payment transactions, as with vending machines.
- **Bill payment:** may choose to pay recurring or nonrecurring bills and invoices via electronic bill payments (paid individually or set up automatically to a payment schedule).
- **P2P payments:** the vast majority of consumer-to-consumer payments are conducted with cheques and cash, but some transactions using electronic person-to-person (P2P) payment systems.
- **A2A payments:** consumer moves funds from his/her account at a financial institution to the account of another individual or business at the same or a different financial institution.
- **Cash withdrawals and advances:** obtain cash from merchants or automated teller machine (ATMs/cash machines) or receive cash back at some PoS locations.

Account penetration among mobile money users in economies with the highest use of mobile money

Mobile money users by whether with or without a formal account (as % of all adults)



Note: Mobile money users are adults who report having used a mobile phone in the past year to pay bills or send or receive money.
Source: Demircuc-Kunt and Klapper 2012.



Recent trends

- **Payments are becoming more invisible, thanks to mobile**
- **Full financial mobility due to increased sophistication of mobile banking apps and the fast consumer uptake**
- **Growth in e-commerce marketplace and international growth potential, particularly in developing countries**



Governance

- **Role of governance: adoption, standard setting, security, integration, lender of the last resort, etc.**
- **Establish governance vs. market mechanisms**
- **Separating the payment schemes (i.e. mutually owned by banks) from the revenue generating payment processing that supports them is necessary**
- **Effective customer involvement is particularly important in the governance of payments**
- **Stronger governance and regulation are needed to encourage banks/MNOs/other institution to respond to customer demand, but the details should still be the responsibility of themselves**



New technologies

- **mobile-POS - transform the smartphone into a mobile POS terminal**
- **mobile technology and location-based payment**
- **2D bar codes (or QR code), i.e. Starbucks Card Mobile**
- **contactless card combined with biometric data**
- **real-time retail payments systems (RT-RPS)**



Choice criteria

- **Country idiosyncrasies**
- **Network effect**
- **Bandwagon effect**
- **Isomorphisms**



Explanation of variation

- **Payment systems in general exhibit a number of economic features, i.e. large fixed costs, variable costs, usage externalities, adoption externalities**
- **There is no satisfactory explanation for the country variations**
- **Network externalities prevail in payment instruments such as ACH transfers, credit card and debit card payments, and ATMs**
- **Lock-in into an inferior unsponsored standard can happen if the interests of players are not aligned and/or if players have incomplete information about each other's interests**
- **Sponsored standards may reduce, but not eliminate, the occurrence of lock-in**



Problems and prospects

- **A surprising percentage of households still prefer to use cash and regularly visit bank branch**
- **Despite the increasing number of mobile banking users, most still use it to check balance and recent activity instead of make payments or transfer money**
- **Moving a transaction from a branch to an online/mobile and from cash to cashless remain a significant challenge in many developing countries**

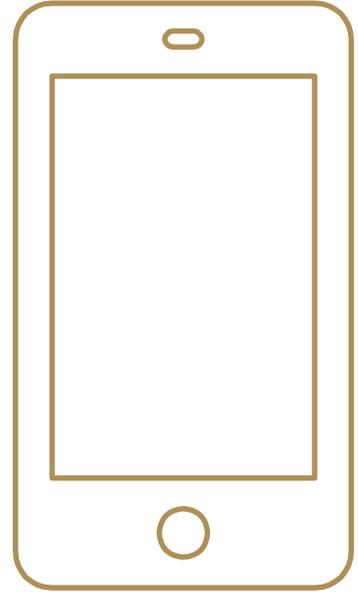


Financial inclusions

- **Financial inclusion is the delivery of financial services at affordable costs to sections of disadvantaged and low-income segments of society**
- **Enthusiasm is generally high, but a majority of the world's poor remain excluded from formal financial services**
- **Mobile payments should be treated as one delivery channel for inclusive financial services**
- **Regulations (antitrust and competition, consumer protection, financial services) should be adequate to accommodate the integration of mobile payments into existing financial services**

MOBILE PAYMENT SYSTEMS

What distinguishes mobile from other retail payment systems?





Special characteristics of mobile systems

- Pay for goods, services, and bills by taking advantage of wireless and communication technologies
- Sometimes they do not require an account with a traditional financial institution that makes them distinct from mobile banking and securities account
- Often carried out through a non-bank entity (such as a credit card company) and are not based on a pre-existing bank/securities account
- Operate in such networks with shared common infrastructures such as telecommunications networks, settlement systems, etc. and compete for customer value on the basis of these infrastructures
- Exhibit strong cost advantages with increasing network coverage due to economies of scale
- This positive network effect and increasing returns through positive feedback, leads to the emergence of natural monopolies



Special characteristics of mobile systems

- The ecosystems consist of a network of organisations and individuals that must be in place
- This ecosystem spans a wide range of different players
- Possible phases of expected maturity: (i) vertical initiatives (the company alone), (ii) strategic alliances and partnerships with some agents, and finally (iii) a regulated and interoperable eco-system among the other (3rd party) institutions.
- Mobile technologies are important in the configuration because they can either inhibit or allow different topologies and resource services
- Simply broadening the coverage/capillary of the mobile networks in a geographical region would allow financial services



The significance of additional players

Telecomms Companies

- Play leading role in dev & deployment
- Import. & potential of MNO-led business models to advance financial inclusion (Safaricom **Kenya**, Vodacom, Tigo, Airtel Tanzania, Econet **Zimbabwe**)
- Network congestion reduces quality of service, creates incentives to monopoly

Internet Services Firms (e.g. Apple Pay)

- Disruptive innovators fuelled by upstarts (Square, Stripe, Apple Pay, etc.)
- Attracted increasing participants, including Amazon, Starbucks, etc.
- Leverage mobile device users (outnumber desktop/PC users) & merchants who quickly optimise payments for mobile devices

Associated Regulators

- Pressure for issues inc. trust & security, monopolies, competitive cartels
- Reconsideration whether intervention is required. If yes, to what extent? What options?
- Overlapping jurisdiction & differences (financial, telecommunications, competition/antitrust)



Comparative cases

Oi Paggo (Brazil)

- Low adoption level
- Large, diversified economy w/ stability & growth
- Successful poverty alleviation strategies
- Welcoming environment for foreign business

T-Cash (Indonesia)

- Moderate adoption level
- Leveraging 4th largest population for sustained growth
- Promising prospects for growth fuelled by FDI

M-PESA (Kenya)

- High adoption level
- World Bank & IMF-led reforms aided path to prosperity
- Services already 2/3 of the economy; most people still live in rural areas



Comparative cases (2)

Oi Paggo (Brazil)

- 100% penetration slowed growth rate
- Tech advanced banking; internet banking & high penetration of ATM's
- Regulators prevented expansion beyond retail
- Competition w/ established fin insts offering similar services for the poor

T-Cash (Indonesia)

- Telecom industry expands access
- Regulators open & positive of cash-free system
- Regulation inhibited peer-to-peer products
- Partners failed to target the unbanked poor & made it compete w/ legacy

M-PESA (Kenya)

- Telecom a major driver for economic growth
- Safaricom near-monopoly on highly penetrated mobile market
- World benchmark
- Developed a massive agent network, beyond any expectation



Comments on trends

- **Many of hundreds of mobile payment systems fell short**
- **Convenience & immediacy key drivers; but no one-size-fits-all formula**
- **Minimise failure risk by collaboration among banks, MNOs, retailers, etc.**
- **Reinvention of shopping experience, i.e. consumers turn to messaging apps as the new shop windows, showrooming vs. making mobile purchase while in the store**
- **Mobile money usage fast becoming the norm, disrupting banking & retail**
- **Trust & security issue threatens development**